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SCHOOL BUILDING SURVEY AND PROGRAM FOR PORTSMOUTH AND MIDDLETOWN, R. I.

by

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"SCHOOL BUILDING SURVEY AND PROGRAM FOR PORTSMOUTH AND MIDDLETOWN, R. I."

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School Building Survey and Program for Portsmouth and Middletown, Rhode Island

Part One

Introduction

During the past four years, the writer has been developing a general, continuing survey of the educational conditions and needs of the public schools of the Portsmouth-Middletown Supervisory Union in Rhode Island. This thesis is a culmination of this study but will pertain more especially to the part of the survey dealing with a building program and its financing. In other words the main issues will follow the suggested course recommended by Hollis Leland Caswell in his Teachers College Contribution to Education No. 358, from which the following is quoted:

> [1] "The best modern school building surveys consider five main problems:
> (1) An analysis of the existing school plant,
> (2) The building program as it is related to the educational program,
> (3) The future building needs of the community,
> (4) A building program with definite steps of development covering a period of years, and
> (5) The method of financing the program."

Description of Portsmouth

The Town of Portsmouth is located on the northern end

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[1] Hollis L. Caswell, "City School Surveys--An Interpretation and Appraisal" pp. 52-88 Teachers College Contribution to Education, No. 358

of the Island of Rhode Island having the Narragansett Bay on the West, Mount Hope Bay on the North, Seaconet River on the East, and the Town of Middletown on the South. In addition to the Town of Middletown, the City of Newport is located on the southern end of the same island, being about eight miles away. Portsmouth is connected with the main land by two bridges projecting from its northern shore. The "Stone Brige" is a public state bridge connecting Portsmouth with the Town of Tiverton, which adjoins Fall River. The "Mount Hope Bridge", a new, private toll-bridge of the large suspension type, spans the Mount Hope Bay to Bristol, Rhode Island.

> [1] "The Town of Portsmouth was settled in March 1638, was incorporated in 1640, and includes the islands of Prudence, Hope, Despair, Gooseberry and Hog, all in Narragansett Bay, and Gould Island in the Seaconet River."

The only one of these islands requiring school facilities is Prudence Island where there is a one-room building having an enrollment of about a dozen children. This school will not be further considered in the survey as it is impossible to consolidate it because of the large expanse of water separating it from the main part

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[1] Tax Book of the Town of Portsmouth, p. 2, 1929

of Portsmouth, The town is about 7 miles long and 3 miles wide; its area is 23 3/10 square miles.

The 1930 Federal Census reports the population of the town as 2969 people which shows an increase of 379 over the last census of 1920. The population of the town has become in large part farmers of Portuguese extraction and over half of the school children are of this nationality; the remaining inhabitants are in the main decendants of the original settlers. There is one small village centre in the town although this is not as thickly a populated district as the areas adjoining the two bridges in the northern part of the town where on the east side there has developed an amusement park and a settlement of summer houses, known as Island Park and Common Fence Point; on the West side is an attractive residential section and also an industrial distribution-plant of the Weyerheauser Timber Company with a settlement of company houses. In the Southern area of the town are three large estates employing a great many of the inhabitants of this section. The rest of this town consists of highly productive farming land cultivated by the smaller owners.

Description of Middletown

Middletown, another town on the Island of Rhode

Island, has the Town of Portsmouth on its North, and the City of Newport on its South; Narragansett Bay on its West, and the Seaconet River and the Atlantic Ocean on its East. Its present area is 12 5/10 square miles. The Federal Census of 1930 gives the town a population of 2,499. [1] The town is predominantly a farming community but is unusual in its distribution of population in not having a community centre where there is a number of stores and residences. Being almost wholly an agricultural town and having considerable of its area devoted to beautiful residences, the homes of the school children are evenly scattered. The seminary for learning, known as St. George's School, is located within its boundaries, and surrounding the school are many beautiful estates which are numbered among the Newport Summer Colony.

The majority of the population are of Portuguese nationality and operate their small farms, or are employed on the larger summer estates. Most of the decendants of the original settlers also operate productive farms or nurseries. There is an increasing tendency on the part of people that are employed in Newport to become residents of Middletown. This is due largely to the fact that most of the desirable land in Newport has been utilized, and also because of the improved country roads and the low

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[1] U. S. Department of Commerce, Bureau of the Census, Fifteenth Census of the U. S. p. 5

tax rate in the adjoining country districts. Among this class of people, are many employed by the government in its Torpedo Station and ship repair-yards.

Educational Relationship of the two Towns

Similarity of Problems

From the above description of the towns under consideration, it can easily be seen that there are many features which are common to both. The large number of foreign children create a particular type of problem for the teachers of the elementary grades. Many entering the first grade are found unable to understand English, as only the Portuguese language is spoken in the homes. This handicap is not easily overcome because of the many ungraded schools.

Portsmouth has 4 one-room buildings, each of which has from three to five grades; 2 two-room buildings having two grades per room; 1 three-room building having two grades per room; and 1 four-room building having two grades per room.

Middletown has 3 one-room buildings, each having three grades; 1 two-room building having two grades per room; 1 three-room building having three grades per room; and one four-room building having one grade per room. The four-room building in Portsmouth is the only consolidated school in the towns and accommodates children of the first six grades in an area where there were formerly

3 one-room buildings.

In order to accomodate the increasing school enrollments in the past, there has been the practice to reduce the number of grades in the outlying one-room buildings and add a room to the more central school in each town. This has finally resulted in the one-room buildings being retained as primary schools in their respective districts, and the enlarged buildings becoming grammar schools. It has, therefore, been impossible to introduce the type of educational program so necessary to meet the modern educational needs of the children.

Both towns have experienced difficulty in retaining their best teachers, as it is considered impossible to meet the salaries paid to teachers in the adjoining cities. This situation has been somewhat improved within recent times because of the over-supply of the trained teachers and the lesser need of the surrounding cities due to their static or decreased population on account of their economic conditions.

The high school children are sent to Newport and Fall River for their instruction, and their tuition is paid by the towns. The influence of the cities on the towns' courses of study is also materially felt, as entrance examinations are required at their high schools. Here we meet with the problem of training children to pass examinations, rather than educating for education's sake.

Supervisory Union

Approximately four years ago the school committees of the towns petitioned the Rhode Island Commissioner of Education to organize a supervisory union for Portsmouth and Middletown. This petition was favorably received and the two towns were united for educational supervision. The supervisory staff includes a union superintendent, a music supervisor, and an art supervisor, who prorate their time according to the number of rooms in each town. Portsmouth employs sixteen class room teachers, and Middletown twelve class room teachers and a sewing teacher.

Part Two

General Educational Needs of the Children in the Small Town

Fundamental Subjects

The State Commissioner of Rhode Island states:

> [1] "We have set our faces firmly toward a standard cost for all schools. The word 'rural' is not used in our rules and regulations."

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[1] Katherine M. Cook, "Rural Education" p. 22 Gov. Bul. 1923, No. 36

However, there is much to be accomplished if the unsatisfactory conditions noted in this survey are to be overcome to the extent that rural instruction will approximate urban conditions.

The writer has been appointed by the State Commissioner of Education a member of a committee composed of six Rhode Island Superintendents to study plans for greater equalization of educational opportunities through increased, financial state-aid to the poorer towns. The financial condition of the towns under consideration will be discussed in Part Six.

Health

Children in the small towns are in need of physical education and health training. In considering physical education, we must include: "(1) the consideration of the child's environment in relation to good health, or community hygiene; (2) the consideration of the mental hygiene of the child; (3) the teaching and practice of personal hygiene; (4) the teaching of active courses for general body development."[1] In regard to the first of these considerations, rural children are in need of more suitable toilet facilities, and heating and ventilating

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[1] Dr. Florence M. Ross, "Survey of Public Schools of Johnston, Rhode Island" p. 18

systems in their school buildings.

Today, play exists as a highly organized institution which is being promoted by the public as a whole. The rural child needs play partly because of his chores. Though these chores develop strong muscles and make the child a healthy being, the type of chores is sometimes such that it makes him stoop-shouldered, weak in heart development, and often an ungraceful creature. Play is needed to correct these faults and make the country child what the opportunities of the farm should make him. The country child needs play because of its social values. Physical education not only develops the body, but improves the child mentally, morally, and socially as well.

Character

The development of good character on the part of the country child depends to a large extent upon the social contacts and activities common to his community.

> [1] "There is much evidence, though, to indicate that a process of negative selection is going on, and that the more vigorous and talented strains of population are being attracted to the cities. The significant fact to be noted here is that the recreational poverty of rural life is a very important factor in producing this result. The ambitious and gifted individual, dissatisfied, either for himself or his children, with the cultural barrenness of the farm, moves to the city.

> A rural education that places its attention exclusively on improving the economic side of farm life can only hasten this depletion of the rural stock. . . . To youth rural life must be made attractive and humane, if a virile population is to be held on the land. The agricultural community must become a pleasant place in which to live. The achievement of this end is one of the fundamental tasks of rural education." [1]

Guidance

Educational Guidance

The importance of an organized guidance program in the smaller school is now well recognized. All guidance is based upon individual difference--educational and vocational. We hear people say "She was a wonderful teacher." -- meaning that that particular teacher took an interest in an individual. This situation used to be regarded as an unusual circumstance. Today it is regarded as a necessity for a teacher to take an interest in each child. The junior high school is demonstrating the importance of the home room teacher's relationship with her pupils, and definite objectives have been suggested to meet their needs in these grades. One authority suggests the following:

> "7th grade aim -- Vocational ambition
> 8th grade aim -- Value of education
> 9th grade aim -- Character self-analasis, through biography and case studies.

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[1] Chapman & Counts, "Principles of Education" Houghton and Mifflin Co. 1924 pp. 313 - 314

10th grade aim -- The world's work -- a call to service and chosing a vocation.
11th grade aim -- Preparation for my vocation.
12th grade aim -- Social and civic ethics."[1]

The guidance organization, suggested for carrying out such a program in the small schools, might be arranged as follows. The principal would act as Dean of Boys and would be assisted by a corps of teachers particularly interested in the guidance work. Among these would be a Dean of Girls, a Faculty Committee on Guidance, class Advisors, and finally the home room teachers using the "Life Career Motive of Instruction." Perhaps some of the machinery being set up in Guidance seems to overshadow the personalities of the individual; but children in the small town certainly should not make their selection of high school courses without referring to their needs and abilities. [2]

Social Guidance

But after guidance the individual must "fit in". Some essentials for success include a pleasing personality, sympathy, kindliness, tact, poise, etc. It has been suggested that educators should give more attention to the sociologist's outlook on education. Four primary social aims for education have been set up by the

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[1] Jesse B. Davis, "Vocational and Moral Guidance", Ginn & Co.

[2] Jesse B. Davis, From Notes Taken in Lectures, 1930

sociologists: health, vocation, culture, and social-civic. [1]

"Wholesome, social adjustments in school may be facilitated by (1) better teaching of subject matter, (2) the use of the case study technique, and (3) participation of pupils in group government." [2]

Occupational Guidance

The discussion of Portsmouth and Middletown, given under Part One, shows that agriculture is, and doubtless will continue to be, the most important occupation, and the one which the majority of the people will follow. Therefore, the future of the farm population and the education of the farm children are of special importance. [3]

> [4] "The farmer's boy is more likely to follow his father's occupation, because the farmer's capital is tied up in land, in barns and cows. But the chances are just as great that he is better fitted for some other type of farming, or for some industrial, business, or professional occupation as that the plumber's son is better suited to some other occupation than plumbing. This being the case, the farmer's boy has just as much need of, and just as much right to, efficient vocational guidance. In fact, country boys and girls generally have greater need of this assistance because of their limited opportunities to come

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[1] John J. Mahoney, From Notes Taken in Lectures, 1928

[2] Germane and Germane, "Character Education", Sec. III

[3] Katherine M. Cook and E. E. Windes, "Suggestions for Consolidation: Rural Schools of Beaufort County, N. C." p. 2

[4] George E. Myers, "The Problem of Vocational Guidance" pp. 262 - 264

> into contact with and to observe other occupations than the type or types of farming carried on in their particular community. The city youth every day encounters workers in a variety of occupations and forms impressions, sometimes erroneous to be sure, of what is involved in the work done, of the types of people engaged in different kinds of work, and of other things that unconsciously influence his attitude towards the many occupations represented. The farm boy picks up more about one occupation--that of his father --and less about many occupations than does the city boy."

As shown by the stress being laid upon equalizing the educational opportunities for all children regardless of where they live, any building program should provide facilities for carrying out the educational objectives which have been described in the previous paragraphs. The 1929 official report of the N. E. A. Department of Superintendents lays particular emphasis upon this need, stating: "It is imperative that the curriculum must be the precursor of future building programs." [1]

The curriculum that is to be adopted must be sufficiently flexible to apply to three distinct groups of children at the junior high school level, i. e., the group going through high school and on, the group going through high school, and the group leaving as soon as the law allows. Perhaps the needs of this third group of children are similar to those suggested

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[1] Joseph M. Guinn, "Our Chief Concerns with the Future Building Program" Dept. of Sup't. Official Report, 1929

by another survey report which included the following recommendation--

> [1] "The principle recommendation is that through suggested offerings, extra curriculum activities, pupil load, supervision of instruction, testing programs, and guidance, the schools be made attractive and profitable to those pupils who now drop out at the end of the compulsory school-age year, or soon thereafter."

PART THREE

Specific Purposes of the Survey and Program

Eliminate Congestion

The building enrollment tables, given under Part Four, show that there are several rooms having enrollments above forty-two children and that most of these contain from two to three grades. Age-Grade tables for the two towns show that there is a piling up of retarded pupils in the fifth and sixth grades. This is undoubtedly due to the poor preparation which these children have received in the first part of their primary schooling. Recently, standard tests in reading, given to all children enrolled in the first two grades, tend to prove that children enrolled in these congested, ungraded rooms are greatly handicapped. A table is included to show the results of these tests.

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[1] "Survey of Junior and Senior High Schools, Roanode, Va." School Life, Vol. No. 2 Oct. 1929

TABLE I

Reading Ability of First and Second Grade Children

(Average Scores at Midyear 1929-30 on the Gates Tests)

Grade I

Test	Portsmouth Av. Score	Middletown Av. Score	Standard Av. Score
Reading Words	17	12	17
Reading Sentences	12	7	12
Reading Directions	10	7	13
Grade II			
Reading Words	36	30	36
Reading Sentences	25	21	28
Reading Directions	19	16	21

Note: In Middletown 72% of the children tested were enrolled in rooms having more than two grades in a room, while in Portsmouth only 26% of the children tested were enrolled in rooms having more than the first two grades in a room. Since the situations are similar in other respects, these facts in relation to the above scores in reading tend to show that the children in ungraded rooms cannot meet the standards made by those in the better classrooms.

Determine Population Trends

A forecast of the anticipated population of the towns under consideration is obviously of the utmost importance in meeting their educational requirements for the next few years. Engelhardt states that there are no tests which can be applied to measure the reliability of any population forecasts. For this reason forecasts should be for only short periods in advance. Success in predictions demands eternal vigilance. Prognostications must be checked in terms of actual occurrences as new information becomes available. Technique, as well as results, should be checked and modified in the light of actualities. [1]

Since a forecast of future gross population has only general significance, population maps have been compiled to overcome this difficulty. Maps of this kind show at a glance the size of the organization units, the minimum travel distance, and a distribution of the residences of the people. A study of the composition of the population must be correlated with reference to the town's historical setting, traditions, age, size, topography, location, business and industrial interest, rate of growth, social and economic standards, and

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[1] N. L. and Fred Engelhardt, "Planning School Building Programs" p. 71

expirations of the people. Telephone company statistics, birth records, census enumerations and new building permits have all been utilized in this state.

Permit Consolidation of Schools

Alice Barrow's latest school survey is largely devoted to a discussion of the necessity of consolidating small units.

> [1] "Many small school plants are uneconomical. The larger the school plant, within limits, the more economical it is and the greater the variety of education facilities it can offer the children. The school system that has many small buildings spends in separate sites, equipment, janitorial service, and overhead costs that should be spent on modern education facilities."

A recent Government Bulletin states that approximately 1500 consolidated schools have been formed between the years of 1922 and 1925, bringing the total number of consolidated schools to 14,000, ranging from the smaller units to the larger sonsolidated districts served in some instances by larger high schools. [1] By this means modern sanitary graded schools are rapidly replacing the older rural types of structures.

In considering the consolidation of schools a definite educational policy must be established. A

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[1] Alice Barrows, "School Building Survey and Program for Warwick, R. I." 1930 No. 33, p. 9
[2] Katherine M. Cook, "Constructing Tendencies in Rural Education" Gov. Bul. 1925, No. 25, p. 24

glance at the tables showing the grades accommodated in the schools of Portsmouth and Middletown demonstrates the lack of any definite organization. Consideration has been given to the 8-4, 6-3-3, and 6-6 plans of organization. [1]

Provide Modern School Buildings and Sites

In measuring the value of existing school buildings, score cards devised for rating village or rural schools have been utilized. The "Butterworth School Building Score Card" was used in scoring the one and two teachers schools, and the "Strayer & Engelhardt Village Elementary Score Card" was used for rating the larger schools. Building locations were rated according to N. L. Engelhardt's "Score Card for School Building Sites".

PART FOUR

The Portsmouth Survey

The accompanying map of Portsmouth shows the location of the present school buildings with the districts and grades served by them. Table II is a detailed report of the facilities and usefulness of these buildings. A general discussion of exist-

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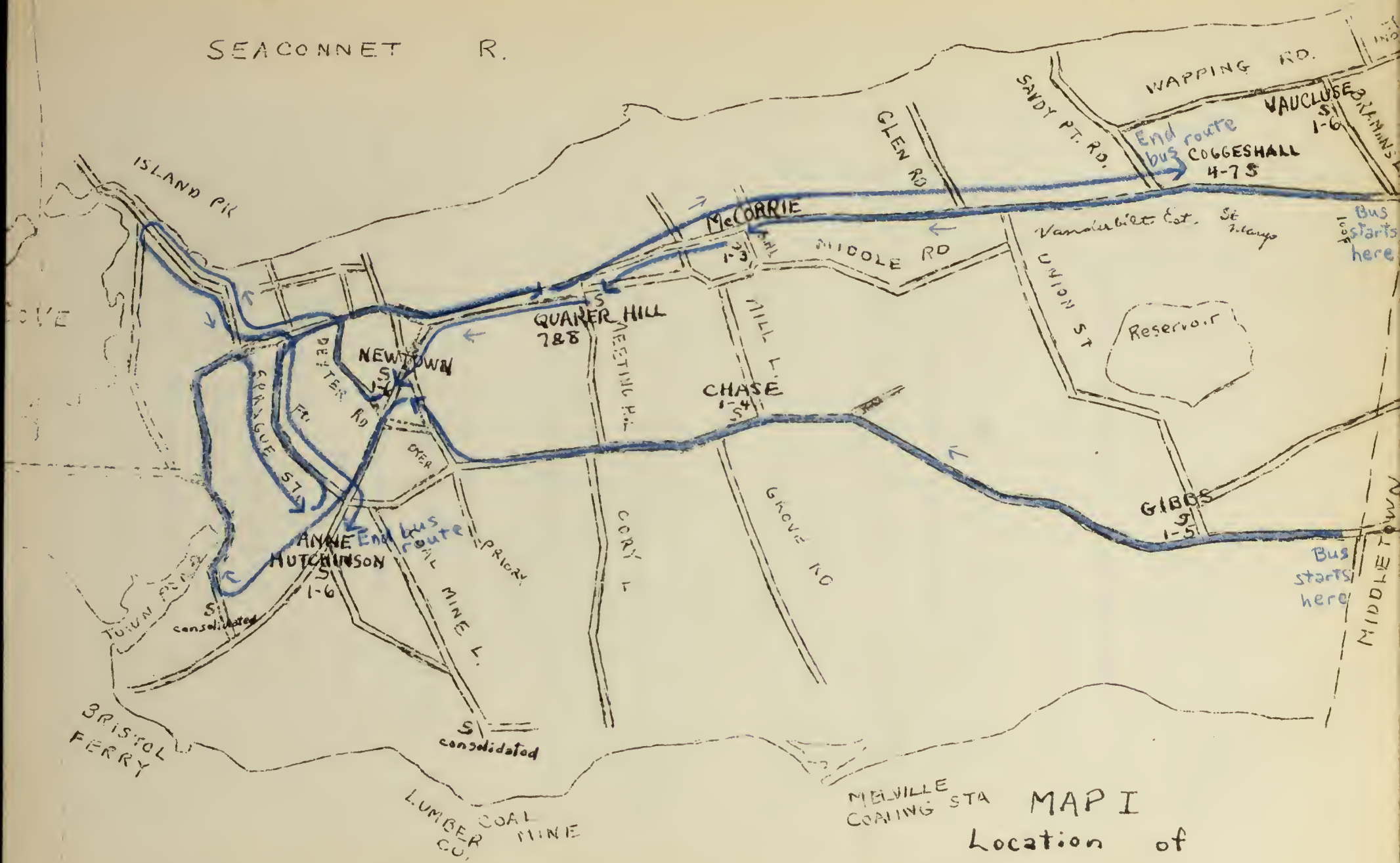
[1] George F. Womrath, "Educational Specifications for School Buildings" Am. Sch. Bd. Jr. Sept. 1929, Art. 4, p.53-4

ing conditions will clarify the situation.

In South Portsmouth the two-room Coggeshall school and the McCorrie School are taxed to capacity. At the opening of this year at the McCorrie School, which cares for children of the first three grades within its district, it was found that there were over forty children to be provided for in this small one-room building. This congestion was relieved by sending half of the third grade children from this section by bus to the Newtown School.

The Vaucluse School, originally providing for the children of the first four grades in its district, was required to add three additional grades when children attending the Coggeshall School from this area were transferred to it. This situation arose because the school attendance laws were being rigidly enforced in this locality, and this necessitated the children who were attending grades above the fourth to walk between 1 1/2 and 3 1/2 miles each way, to and from the Coggeshall School. The parents of some of these children naturally refused to let their children walk this distance, and because of the state law, the attendance officer was powerless to enforce the compulsory school attendance of these children. Following the failure of the town meeting to accept the responsibility of providing transportation in this area, the



MAP I

Location of

Portsmouth School Districts

only alternative left was to fill the one-room Vaucluse School with all the children of that section, regardless of their grade. The situation at the Vaucluse is, therefore, very unsatisfactory, but arrangements are again being made to provide a bus for transporting these children.

There are two other one-room buildings in south Portsmouth -- the Gibbs School containing five grades and the Chase School, which now contains three grades, must provide for another grade next year. This brief review of the conditions at the four remaining one-room schools of the south end of the town shows what unsatisfactory conditions prevail.

But the teaching handicaps at these buildings are but half the problem. There are the physical conditions which have reached a climax and which must be solved within as short a period as possible. Analyses of the schools' drinking water by the State Department of Health show that none of the sources of supply at these schools provides a sufficient amount of pure water for the drinking purposes of the children. There was no water in the McCorrie School well for several weeks during the dry spell of the past year, and water was carried from a neighboring well to the school in pails. The state analyses of the water samples show the bacteria B. Coli contaminating the water supply from the wells at the Chase and the McCorrie Schools.

Spring water is now being purchased for drinking purposes.

In order to provide a sufficient amount of pure, good-tasting water for these children, it would be necessary to drill a well and provide an electric pumping outfit at each of these buildings. In view of the fact that if this were done, there would still remain physical conditions detrimental to the best interests of these children in the form of public outhouses, poor school-room lighting, overheating, uneven ventilation, and cramped playground area. Any relief measure should provide for the consolidation of these four buildings.

In the northern part of Portsmouth, the Anne Hutchinson School is overcrowded and the Quaker Hill School will not have room to provide for the seventh grade children from that school the next year, as had been the custom in the past. This will necessitate the provision of another class room somewhere in that area, or resorting to the part-time classes, which would be a great handicap to the pupils of this district. The Newtown School also has a large enrollment for its size. The accompanying Table II summarizes the following data concerning school buildings: age, type, facilities, value, rooms included, enrollment, and score card ratings. In the 1921 Rural School Survey of New York, Butterworth tabulated the following averages resulting from the use of his school building score card:

TABLE II

SUMMARY OF BUILDING DATA -- PORTSMOUTH

School	Year Built	No. Class Rooms	Other Rooms	Pupils Attending	Grades Included	Valuation of Bldg.	Heating	Water	Indoor Toilet	Electric Lights	Playground area in sq. ft.	Bldg. Score	Score Card Used
Anne Hutchinson	1928	4	gym. libra. t. rm.	170	1-6	$34,000	Steam	Yes	Yes	Yes	52,000	885	S. & E.
Newtown	1909	3	---	130	1-6	11,000	Steam	Yes	Yes	Yes	46,200	830	S. & E.
Quaker Hill	1915	2	libra. t. rm.	71	7-8	12,000	Steam	Yes	Yes	Yes	44,760	895	Butterworth
Coggeshall	1926	2	t. rm.	66	4-7	19,000	Steam	Yes	Yes	Yes	245,000	950	Butterworth
McCorrie	1876	1	---	36	1-3	2,000	Stove	No	No	No	10,000	495	Butterworth
Vaucluse	1844	1	---	26	1-6	2,500	Stove	No	No	No	11,640	465	Butterworth
Gibbs	1864	1	---	25	1-3	1,800	Stove	No	No	No	9,200	460	Butterworth
Chase	1873	1	---	26	1-3	2,000	Stove	No	No	No	11,750	455	Butterworth

One teacher school
Q1 --547 Median -- 618 Q3 -- 697

Two teacher school
Q1 -- 692 Median -- 784 Q3 -- 897 [1]

Present Transportation of Pupils

The present bus routes are shown on Map I. Approximately 200 children are being carried to school each day on two busses owned and operated by a local transportation company. This amount of transportation is accomplished by the use of two busses because of the nearness of the two main state highways to most of the homes of the school children. The town is fortunate in having its transportation provided at cost, which according to the statement of the bus company officials, amounts to 19 cents per running mile. According to a report from the R. I. Director of School Research, received a few months ago, the average daily cost per pupil a mile in the state when more than 30 pupils are carried more than ten miles, is 1.2 cents. Figuring at this rate, our present transportation contract costs would amount approximately to $3,600, rather than $2,500 as at present. The condition of the roads over which the busses travel is excellent.

Location of Homes of School Children

Reviewing the locations of the children's homes, as

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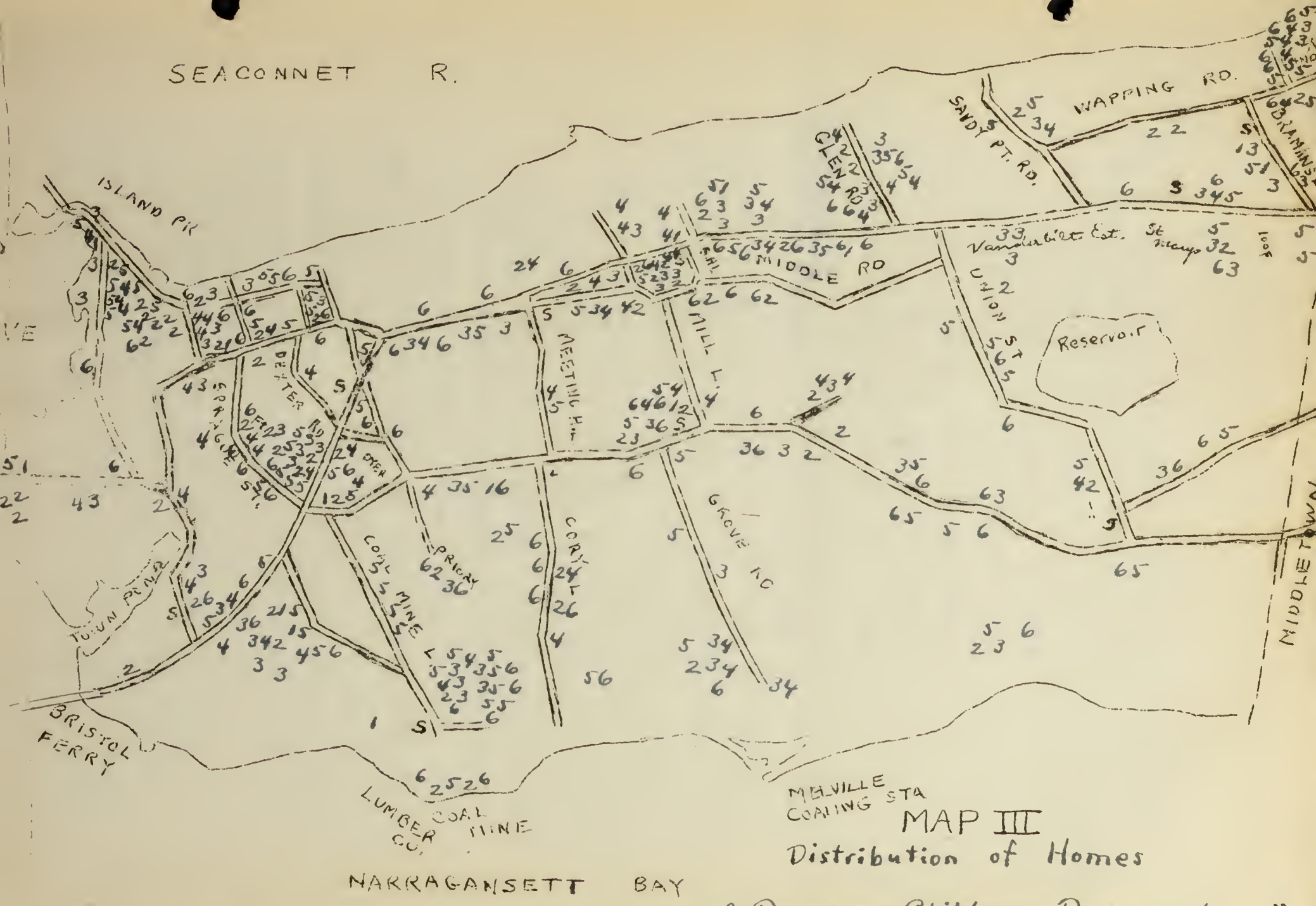
[1] J. E. Butterworth, "Rural School Survey of N. Y. State, pp. 28 - 39

MAP II

Distribution of Homes

by School Attendance - Portsmouth



MAP III

Distribution of Homes

of Pre-school Children - Portsmouth

tabulated on Maps II and III, it is noticeable that they are fairly evenly distributed about the town. Newtown village is generally regarded as the town's business centre, but there are fewer children in this immediate vicinity than in some of the more outlying districts, such as the Mine district, Island Park, and the McCorrie area. On Map II the location of each pupil's home is represented by a number which also designates the grade which he is attending. The color of the number agrees with the color of the school where he is attending. It will be noticed that many pupils are obliged to attend schools which are located considerable distances from their homes, showing the need of a redistribution of school districts and reorganization.

Location of Homes of Pre-School Children

Considerable emphasis has been placed upon the number of pre-school children residing in the town and also upon the location of their homes. The reliability of this index in forecasting school needs places it foremost in the study of the population trends. The accompanying Map No. III shows their distribution in the town, each number representing one child of the age shown by the figure.

The data were tabulated by reviewing the birth records in the town clerk's office and by rechecking these figures by interviewing every child in the school district. The following tabulation shows the importance

of rechecking the birth register because of the constant moving in and out of the town. Table III. The two significant findings of the pre-school children survey are, (1) barring unexpected developments, there will not be a very appreciable change in the school population during the next five years, and (2) the grouping of the pre-school children's homes is approximately the same as that of the present school distribution of pupils' homes.

Population Trends

A summary of the population estimates derived from a study of the total population, number of families, school enrollments, and school census reports is shown in table IV.

The New England Telephone and Telegraph Company has recently completed a family survey of the Island of Rhode Island and the data that was available has been reviewed and included in the "Summary of Estimates." The Newport Electric Corporation has not made a detailed study of the possible future development in the town, although its manager was interviewed as he has been one of the primary promoters of the expansion policy, being inaugurated by the Newport Chamber of Commerce and the various Planning Boards in the towns of the county. The two policies now being stressed in Newport along these lines will undoubtedly affect Portsmouth -- i. e., the proposed island shore drive which will eventually bring more summer estates into the town, and the campaign that

TABLE III

PRE-SCHOOL CHILDREN RESIDING IN PORTSMOUTH.
A CHECK ON THE TOWN
BIRTH REGISTER

Year Born	Register	Moved	Summer	Unknown	Died	Remaining	Moved in or Unrecorded	Total in Town
1924	56	14	0	1	1	40	49	89
1925	58	15	0	3	0	40	40	80
1926	63	15	1	1	4	42	31	73
1927	45	7	0	1	1	36	29	65
1928	70	7	1	1	1	60	18	78
1929	45	3	0	1	2	39	24	63
1930	9	0	0	0	0	9	5	14
								462

TABLE IV

SUMMARY OF POPULATION ESTIMATES
FOR PORTSMOUTH

Item	Source	Year				Increase in the years			Yearly percent of increase
		1920	1930	1931	1936	1920-'30	1930-'31	1931-'36	
Population	U. S. Bur. Census	2,510	2,969	--	--	379	--	--	1.4
Number of Families	N.E.Tel.Co.	--	700	710	760	--	10	50	1.4
Elementary School Enrollment	School Dep't.	469	563	--	--	94	--	--	1.9
School Census Ages 4-21	Census Enumerator	788	975	1036	--	157	41	--	2.2

Estimated annual increase in percent --1.7%
Estimated school enrollment in 1936 in grades 1-8 --620

is being vigorously promoted to attract permanent home makers to the island.

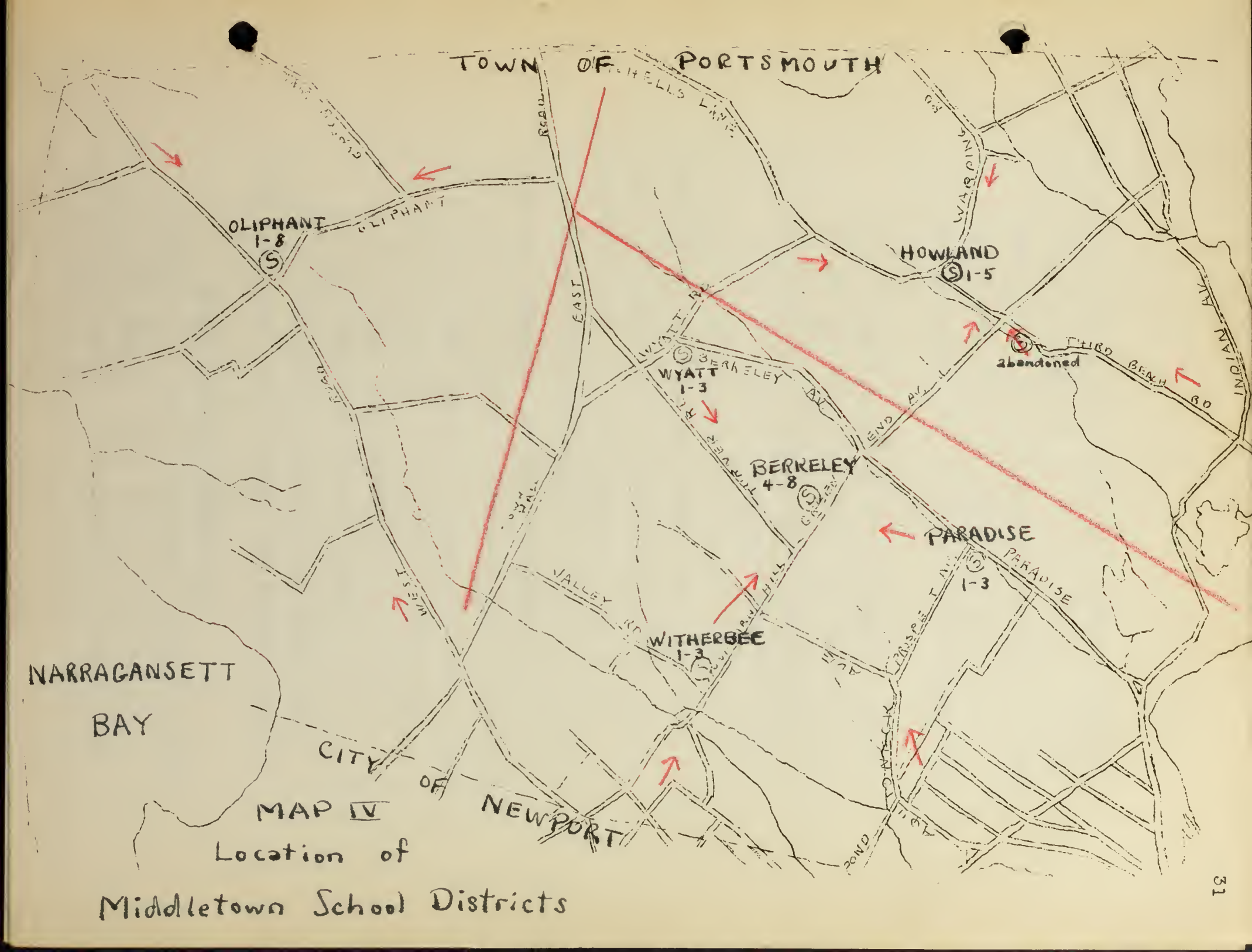
Part Five

Middletown Survey

Middletown School Buildings

Although Middletown is an agricultural community having its population fairly evenly distributed, there are three localities which appear to be rather closely populated. These include the Boulevard locality, the area surrounding Berkeley School, and Howland district. With regard to the school needs of these localities, the Howland School provides improved facilities in its location, and the Boulevard area evidences little demand for schools at the present time, as there are less than a dozen children of school age in the vicinity, but the Berkeley School area is in need of increased school facilities.

Map IV shows that there are three one-room buildings each containing the first three grades and that these feed into the fourth grade room at the Berkeley School which they surround. The Paradise School and the Witherbee School are filled to capacity, but the Wyatt School shows a diminishing enrollment due to the moving away of two large families from the district. At present the Howland School accommodates the children



MAP IV
Location of
Middletown School Districts

of its area attending the first five elementary grades, there being two grades in one room and three in another. On the West sice of the town the Oliphant School contains all of the eight elementary grades, having two rooms with three grades each and a third with the seventh and eighth grades.

Table V summarizes the data regarding the present school plant. All buildings are of Type E construction, the oldest being over 59 years old and entirely obsolete. The Howland School, constructed three years ago, is the only modern type of building out of the six; it contains built-in wardrobes in each room, teachers' room, an automatic vacuum steam heater, and an adequate playground area. It is noticeable that all of the buildings have been constructed on a strict economic basis rather than what is best for promoting the children's education. The total valuation of all the buildings and their equipment amounts to but $51,200, which figured according to the number of children in average daily attendance, amounts to a per capita outlay of $133.

The Butterworth Score Card was used to measure the one and two-room buildings, and the Strayer-Engelhardt Score Card for the Oliphant and Berkeley Schools.

Transportation Possibilities

Because of the wide distribution of school buildings covering most sections of the town, the problem of transportation has not yet been seriously considered.

TABLE V

SUMMARY OF BUILDING DATA -- MIDDLETOWN

School	Year Built	No. Class Rooms	Other Rooms	Pupils Attending	Grades Included	Valuation of Bldg.	Heating	Electric Lights	Water	Indoor Toilet	Playground area in sq. ft.	Bldg. Score	Score card Used
Berkeley	1917	4	t. rm.	150	4-8	$15,600	Steam	Yes	Yes	Yes	94,750	760	S. & E.
Oliphant	1882	3	--	78	1-8	10,600	Steam	Yes	Yes	Yes	23,000	710	S. & E.
Howland	1928	2	t. rm.	58	1-5	19,000	Steam	Yes	Yes	Yes	45,000	950	Butterworth
Witherbee	1907	1	--	41	1-3	2,200	HotWt.	No	No	No	12,150	585	Butterworth
Paradise	1874	1	--	40	1-3	2,200	HotWt.	No	No	No	10,200	565	Butterworth
Wyatt	1872	1	--	16	1-3	2,200	Stove	No	No	No	18,335	530	Butterworth

At most of the schools there are a few children whose homes are at such a distance that it is necessary for their parents to carry them to school. Possibly there are six individual cases of this kind. The accessibility of the schools to the homes will be considered in greater detail in Part Seven under "Factors to Consider."

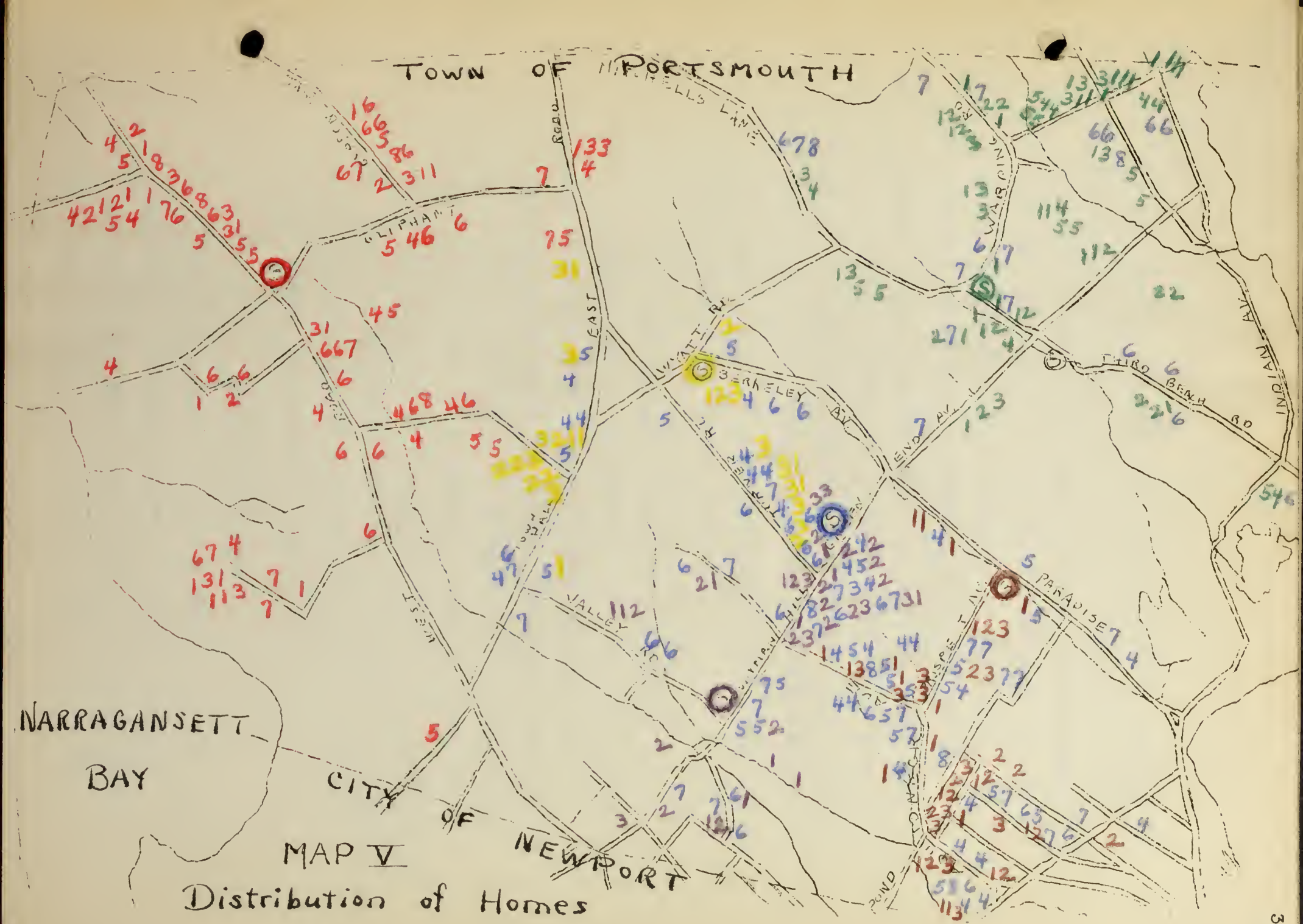
There are 56 miles of town roads in Middletown, most of which are hard-surfaced roads but lack the proper foundation of gravel to maintain smooth surfaces such as found on those maintained by the state. Nevertheless, the road conditions and their locations are favorable for the operation of school busses.

Location of Homes of School Children

The distribution of the homes of the school children, Map V, shows that the Wyatt, Witherbee, and Paradise Schools are not in the immediate area of their respective districts.

It is evident that these children are handicapped in obtaining efficient instruction in the fundamentals of their elementary education because of the grading which allows the teacher to devote only a third of her time to each group. Similar to the Portsmouth plan, each figure and its color represents the grade of the school attended by each pupil.

The Berkeley School has the best grading and is operated on the modified platoon basis. Specialized subject teachers carry on the work in grades 5 through



MAP V

Distribution of Homes

by School Attendance - Middletown

8 in arithmetic, English, the social subjects, physical education, and sewing. In addition to the large enrollments and unsatisfactory grading in the primary grades, there is the problem of retaining well-trained teachers. This is especially true in Middletown, due to the proximity of the City of Newport, where the salary schedule is much higher, and where the homes of most of the teachers employed are located. This survey does not include an extensive discussion of the efficiency of the instruction in the schools, but this brief discussion seems necessary to realize the necessity of an improved school organization in the town.

Location of Homes of Pre-School Children

The location of the homes of the pre-school children have been plotted to show the distribution of the school children during the ensuing five years,--see Map VI. Houses containing more than one child are shown by the placing of two or more numbers together; each number referring to the age of the child. The data were determined by reviewing the town birth records which were then checked by the teachers who interviewed each pupil who reported for his family and neighbors. Table VI.

Population Trends

Population studies included federal and state reports, school census, telephone company estimates, and pre-school children's data, all of which are summarized in Table VII. Zoning ordinances have been drawn up for

TABLE VI

SUMMARY OF BIRTH REGISTRATIONS & SUBSEQUENT MOVING-IN
OF PRE-SCHOOL CHILDREN
MIDDLETOWN, RHODE ISLAND

Year	Recorded Births	Less No. Deaths	Less No. Moved Out	Less No. Summer Res.	Less No. Unknown	Number Remaining	Plus No. Moved in & Unrecorded Births	Present Total June 1930
1930 to June	12	0	0	0	0	12	10	22
1929	40	1	2	1	1	35	13	48
1928	46	0	7	2	2	35	23	58
1927	35	6	2	0	1	26	23	49
1926	48	3	7	2	4	32	28	60
1925	43	1	8	1	3	30	24	54
1924 Sept.-Dec.	12	1	1	0	0	10	8	18
Totals	236	12	27	6	11	180	129	309

TOWN OF PORTSMOUTH
NARRAGANSETT BAY
CITY OF NEWPORT
OCEAN AV
EAST MAIN RD
WEST MAIN RD
GLIPHANT
BERKELEY AV
PARADISE
THIRD BEACH
MAP VI
Distribution of Homes
of Pre-school Children - Middletown

TABLE VII

SUMMARY OF POPULATION ESTIMATES
FOR MIDDLETOWN

Item	Source	Year				Increase in the years			Yearly percent of increase
		1920	1930	1931	1936	1920-'30	1930-'31	1931-'36	
population	U. S. Bur. Census	2,094	2,499	--	--	405	---	---	1.9
Number of families	N.E.Tel.Co.	--	525	537	600	----	12	63	2.2
Elementary school enrollment	School Dep't.	314	385	--	--	71	--	--	2.2
School census ages 4-21	Census Enumerator	639	810	821	--	71	19	---	2.9

Estimated annual increase in percent -- 2.3
Estimated school enrollment in 1936 in grades 1-8 -- 438

the town but have not yet been passed by the voters. There appears to be but little need for zoning laws as practically all new buildings are residences. There seems to be no tendency to develop any one section of the town. The pre-school children statistics seem to indicate that there will not be any urgent need for greatly increased facilities within the next 5 years, outside of what now is apparent. Population estimates--Table VII--indicate a steadily increasing need because of the growth of Newport's population becoming absorbed by Middletown.

Part Six

Additional Features to be Considered

Financial Conditions of the Town

The question of whether the towns are able to finance their schools is naturally an important one. A comparison of their financial conditions with other towns, Table VIII, shows that they are far better off in this respect than the majority.[1] The total indebtedness of the town of Middletown amounts to $53,000, of which $12,500 are school loan funds. It has been the custom to retire $3,000 of the principal on these notes annually. The total valuation of property subject to local taxation

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[1] Public Education Service, Commissioner of Education for R. I. 1930

TABLE VIII

PROPERTY BACK OF EACH CHILD IN AVERAGE MEMBERSHIP

(Intangibles at 1/5 valuation to indicate Revenue Power

Town or City	Per Capita Valuation	Rank
Narragansett	$25,877.29	1
Scituate	19,887.39	2
Woonsocket	16,113.67	3
Newport	14,714.54	4
Jamestown	14,173.32	5
Providence	13,612.47	6
Little Compton	12,427.87	7
Pawtucket	12,167.96	8
Middletown	11,807.92	9
Charlestown	10,321.53	10
North Kingston	10,754.55	11
Portsmouth	10,631.54	12
Central Falls	9,925.47	13
North Smithfield	9,493.23	14
Barrington	9,095.71	15
Westerly	8,536.32	16
Warren	8,222.60	17
Cranston	8,161.93	18
East Providence	7,974.18	19
Cumberland	7,493.18	20
South Kingston	7,365.40	21
East Greenwich	7,099.77	22
Warwick	6,884.18	23
Lincoln	6,806.48	24
Smithfield	6,729.12	25
Tiverton	6,663.86	26
New Shoreham	6,604.05	27
Richmond	6,527.49	28
West Warwick	6,509.54	29
Exeter	6,460.95	30
Foster	5,822.82	31
Bristol	5,762.40	32
Coventry	5,698.77	33
North Providence	5,661,96	34
West Greenwich	5,577.71	35
Glocester	5,249.30	36
Burrillville	5,222.01	37
Johnson	4,482.46	38
Hopkinton	4,387.59	39
STATE	11,011.35	

amounts to $6,596,875. Property claiming exemption from taxation is valued at $2,400,100. [2]

The tax rate of forty cents on each $100 in value of intangible personal property, and one dollar and thirty cents on each $100 in value of tangible property amounted in the year 1930 to a total of $76,087.53.

The total indebtedness of the Town of Portsmouth amounts to $30,000, being in the form of serial bonds sold three years ago at the time the Anne Hutchinson School was erected. Up to that time the town had never had any indebtedness. $2,000 of the principal is retired each year.

The total valuation of property subject to local taxation amounts to $7,869,675, The present rate of tax on tangible property is one dollar and twenty cents on each $100, and forty cents on each $100 of intangible property. The total amount of property tax derived from this assessment amounts to $90,180.90. Last year the poll tax collected amounted to $116, which although being a small amount is added to the school revenue of the town. $325,000 covers the assessed valuation of tax exempt property. [1]

Although Portsmouth and Middletown have the ability to finance an adequate school program and to make the

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[2] Municipal Year Book of the Town of Middletown, R. I. 1930-31

[1] Tax Book for the Town of Portsmouth, 1930

necessary capital outlays, they have not shown the effort to do so. A careful review of the expenditures for support show that they are falsely economizing on many of their accounts.

For many years the per capita costs for many of the schools of the towns of Portsmouth and Middletown have been low in comparison to those of the majority of the towns and cities of the state. Last year Portsmouth showed the lowest per capita cost of any town or city in the state, while Middletown ranked twenty fifth. The following table based on the state reports for the school year 1929-30, shows their present standing and certain per capita costs on a basis of average membership. Table IX.

Although teachers' salaries have been raised during the past year, they are still among the lowest in the state for towns similar in size and character of school problems. Table X. It is significant that the per capita costs of operation which include wages of janitors, amounts for fuel, water, light, janitor's supplies, etc., are proportionately much higher than the expenses for instruction; and more especially that the maintenance expenditures for repairs, upkeep of grounds, replacement of equipment, insurance, etc., exceed the state average. In other words, the towns are paying excessive amounts on poorly organized school plants. Fewer janitors, less fuel, less repairs and replacements are needed and this calls for a consolidated plant, having modern

TABLE IX

PER CAPITA COSTS BASED ON AVERAGE MEMBERSHIP 1929-1930

	Portsmouth per Capita Cost	Rank in State	Middletown per Capita Cost	Rank in State	State Average
Total per pupil in average membership	$61.29	39	$70.43	26	$87.40
Teachers salaries	33.40	37	35.04	35	54.09
Textbooks	.86	33	1.10	26	1.75
Instructional supplies	1.04	32	1.93	11	2.54
Operation	6.88	30	11.72	7	10.67
Maintenance	4.81	8	4.21	13	4.06

TABLE X

SALARIES PAID ELEMENTARY SCHOOL TEACHERS

IN NEAREY TOWNS

Place	Maximum Salary	Minimum Salary	Yearly Increase
Attleboro, Mass.	$1500	--	$50-100
Barrington, R. I.	1300	$1000	100
Bridgewater, Mass.	1250	950	100
Bristol, R. I.	1500	900	100
Central Falls, R. I.	1500	900	100
Charlestown, R. I.	1200	900	50
Cumberland, R. I.	1400	1000	100
Danielson, Conn.	1400	1000	50
Dartmouth, Mass.	1200	900	75
Dighton, Mass.	1150	850	50
Easton, Mass.	1450	900	100
Exeter, R. I.	725	725	--
Franklin, Mass.	1450	900	75
Glocester, R. I.	1200	836	--
Hopkinton, R. I.	1200	900	50
Jamestown, R. I.	1450	1000	100
Johnston, R. I.	1300	900	100
Medfield, Mass.	1300	1000	100
Middletown, R. I.	1200	900	100
No. Providence, R. I.	1300	900	100
No. Smithfield, R. I.	1400	1000	100
Newport, R. I.	1700	1400	--
Portsmouth, R. I.	1100	900	100
Putnam, Conn.	1450	1000	50-100
Richmond, R. I.	1200	900	50
Rockville, Conn.	1500	1000	50
Smithfield, R. I.	1250	900	--
Somerset, Mass.	1300	900	100
So. Kingston, R. I.	1400	850	--
Swansea, Mass.	1200	900	--
Tiverton, R. I.	1300	900	100
Warren, R. I.	1400	900	100
Warwick, R. I.	1400	900	100
Westerly, R. I.	1400	1000	100

construction.

With one exception, Portsmouth's tax returns are the lowest in the state, and Middletown with its rate of thirteen dollars on a thousand is also in the lowest group. The exceedingly low rate of school tax on each $100 valuation for the current support of the schools amounting to forty cents in Middletown, and forty six and a half cents in Portsmouth shows convincingly that there is comparatively little effort being made to promote education. The average school tax rate for the State of Rhode Island, according to a report published by the Public Education Service, amounted to seventy three cents. However, it is evident that the difficulty is not in the proportion of town revenue devoted to the school purposes but to the small amount of taxes collected due to their meager tax rates. While the percentage of revenue devoted to the current support of schools for the State of Rhode Island averages for the present time 40% Portsmouth allots 49% of its revenue to this purpose and ranks eighth among the thirty nine towns of the state. Middletown, while not devoting as large a per cent of its revenue to the current support of its schools, gives more than the customary third and ranks twenty eighth in alloting thirty-seven per cent for this purpose.

Other financial features deserving some consideration include the large valuation of property which is exempt from taxation in the Town of Middletown. This is due largely to the exemption allowed the St. Georges private school.

Community Attitude

The N. Y. Rural Survey Commission of 1921 found that there are three fundamental factors influencing the school building situation: public opinion, state legislation, and financial ability of the community.

> "These factors suggest the points of attack. The approach to the whole matter should be through leading the people themselves to see the need for better things." [1]

Public opinion, is a difficult matter to direct, especially in a small community. The matter of consolidation of small schools depends upon convincing the people of the need.

> "The people will not give, and should not be expected to give, their consent to changes in education until they are convinced that such changes are necessary: and they can only be convinced through proper efforts on the part of school officials to make school conditions and needs known to them." [2]

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[1] Julian E. Butterworth, "Rural School Survey of New York State--School Building and Grounds" pp. 129 -- 131

[2] B. F. Pittenger, "Giving Publicity to City School Surveys" School and Society Vol. 26. pp. 277 Aug. 27, 1927

Special opposition to increased school support is noticeable in the conservative type of rural community as the results of questionnaires sent to towns and cities having surveys shows.

> "Among the groups giving the strongest support, women's clubs, families with children in school, commercial clubs, business men, and professional people clearly stand out, for they were reported much more often than any others. Among the groups offering strong opposition to school improvement, heavy taxpayers and retired citizens lead....Likewise the illiterate element, politicians, the Board of Finance, retired citizens and farmers were reported only as having offered strong opposition to the improvements sought by school surveys....School improvement in other words, is not only based upon public opinion, but is also limited by it." [1]

Sentimental traditions that have centered about the early schools and their sites have likewise retarded educational progress. Such indications of faith in the common schools have often made it difficult to vary from the earliest standards and to change to building types and sites which conform to the expanding needs of education.[2]

Teaching efficiency requires the centralization of small rural schools wherever road conditions permit. The advantages of such consolidation have been summarized as follows:

> "The advantages of the proposed consolidation may be summarized as follows: (1) Better instruction for all pupils, but particularly a more

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[1] B. F. Pittenger, "Giving Publicity to City School Surveys" School and Society Vol. 26. pp. 277 Aug. 27, 1927

[2] N. L. Engelhardt and Fred Engelhardt, "Planning School Building Programs" pp. 91-98

> thorough foundation in the fundamentals of reading and arithmetic in the primary grades; (2) a vast improvement in conditions influencing the health of children; (3) a better moral environment; (4) a keener interest and a greater enthusiasm on the part of both pupils and teachers; (5) a better opportunity to develop activities appropriate to the various ages of children; (6) a more thorough and complete preparation of upper grade pupils for high school work; (7) an opportunity for worthwhile community activities; (8) a greater incentive for the most capable young people to prepare for teaching, and conditions more favorable to the retention of good teachers; (9) necessary janitor service becomes possible; (10) a school of the type proposed always adds to the attractiveness of the whole community which it serves." [1]

Utilization of the Best Buildings

Any plan presented to meet the educational needs of Portsmouth and Middletown must show which buildings should be abandoned and which retained.

In making this decision each building was considered in the light of four questions,--

1. What does the building score?

2. Can the building be adapted to the educational program and organization?

3. Is the location suitable for further consolidation?

4. Will enough taxpayers permit the abandonment of the building and provide a more suitable structure to replace it?

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[1] "Survey of Public Schools of Glocester, Rhode Island" R. I. Public Education Service, 1930 pp. 13

The tables showing "Building Data" and the maps plotting the "Distribution of the Homes of Pre-School Children" are most useful in answering these questions. The Scores of the one-room buildings, coupled with their inability to meet the present accepted standards of instruction, eliminates them from further consideration. In Portsmouth the Anne Hutchinson School and the Coggeshall School are modern types of buildings and being located at each end of the town can ultimately be used as the centralizing units for the elementary grades of the town. Considerable sentiment is attached to the Quaker Hill School by the townspeople. It is located on the top of Quaker Hill opposite the Town Hall in about the center of the town and has a large tower room now used as the school department's office. The use of this building must be continued. The Newtown School is not well constructed but has modern facilities such as steam heat, a water system, good lighting, and increased playground area. In Middletown, the Howland School is comparatively new. Oliphant, and Berkeley Schools have modern facilities and cannot be abandoned for some time. The rooms in these two schools are arranged so that any additions to the buildings would be impossible.

Community Center Needs

"Someone has well said that we shall never

> have a typical consolidated school building because conditions in rural districts vary so much that every consolidated school has characteristics peculiar to itself. School buildings in the large cities can be duplicated in various parts of a community without danger of failure to meet the educational program. In the country every school presents its own problems and requires an original solution on the part of a competent architect to whom the educational problem has been properly presented by the educational factors.
>
> Ex:-East Pikeland Consolidated School, Kimberton, Pa. Davis, Dunlap and Barney, Architects, Philadelphia, Pa. has six classrooms, an auditorium, gymnasium, and a boy-scout room". [1]

Each town is in need of a regulation-size gymnasium that can also be used for auditorium purposes. The gymnasium at the Anne Hutchinson School is proving its worth by being in almost constant use by the people of its district. The curriculum in the upper grades needs broadening in order to appeal to the individual interests of the large number that leave as soon as they are 15 years old and can obtain work. Provision should be made for instruction in the agricultural pursuits as the majority of the boys will probably be engaged in farming after leaving school.

It is probable that a junior or senior high school located within the towns would enable a

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[1] Warren S. Holmes, "A Survey of State School-Building Codes", Am. Sch. Bd. Jr. Sept. 1929 p. 56

larger number of children to obtain an education more suited to their individual needs than they now receive by being "farmed out" to neighboring cities. This consideration will be discussed in greater detail in Part VII.

> "In theory the high school is a social institution which is established, maintained, and in large measure, controlled by a community for the education of its youth. It is open to all who have completed the work of the elementary school. It must, if its work is to be done effectively, be adapted to the needs of its pupils and the educational demands of the community. It is, with the elementary school, the community's one great cooperative enterprise. If it succeeds, it must have the confidence and faith of those who support it." [1]

The Bureau of Education of the Department of the Interior has described the typical rural high school as costing from $15,000 to $300,000. The median value was $50,000. As to construction, 35 of the 54 buildings studied were of brick and wood, 8 of brick, steel and concrete, and 11 were of wood. The following number of special rooms were included--

33 schools had a combined auditorium & study hall.

6 schools had a combined auditorium & community room.

4 schools had a combined auditorium & gymnasium.

7 schools had a community room.

4 schools had no auditorium facilities.

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[1] Emery N. Ferriss, "The Rural High School--Its Organization and Curriculum, Gov. Bul. 1925, No. 10, p. 31

6 in addition to above had gymnasium.

45 had one or more science laboratory.

13 had a manual training room.

13 had an agricultural room.

21 had a home economics room.

5 had a commercial room.

17 had a teachers' room.

4 had a nurse's room.

29 had a library room. [1]

Lack of State Aid for Transportation, Etc.

The State of Rhode Island has not kept pace with many of the other states in the matter of increasing its appropriations for education. In 1845, forty-five percent of the total expenditures for public schools came from State funds while for 1930 but six percent of the public school costs was provided by State apportionments. [2]

The State encourages consolidation to a small extent by allowing an annual payment of $100 for each abandoned room caused through consolidation but there is no further provision for assisting the town to finance either the new building or the transportation of the children to it.[3]

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[1] Bul. 1925 No. 10 The Rural High School -- Its organization and curriculum. Emery N. Ferriss pp. 11 & 12.

[2] Public Education Service--State of R. I. 1930

[3] Laws of Rhode Island Relating to Education. Public Ed. Service Chap. 81 Sec. 8 P. 35

Part Seven

Possible Types of Organization

Transportation Involved

Transportation is provided for the Portsmouth children attending the elementary grades; the standard walking distances suggested by Strayer and Engelhardt determine the carrying area--first six grades one mile and seventh and eighth grades one and a half miles. [1]

No transportation has been provided in Middletown.

The matter of providing transportation to the high school has been brought up occassionally but not much support has been obtained for this measure. It is interesting to note the trend toward providing transportation to high school. In a government Rural High School survey, Ferriss found that out of the 54 High schools visited, 28 furnished transportation and 26 did not. Of the 28, eighteen owned the conveyances and ten contracted. [2]

Original Cost

The Capital outlay necessary to establish a building program depends upon the number of children for whom better housing facilities are needed and upon the organization to be set up.

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[1] George F. Womrath, "Ed. Specifications for Sch. Bldgs." Am. Sch. Bd. Jr. Article IV Sept. 1929 pp. 53-54.

[2] Emery N. Ferriss, Gov. Bul. 1925 No. 10, Rural H. S.- Its Organization & Curriculum.

About seven years ago the cost of elementary schools was figured at about $350 per pupil, and junior high schools at $550 per pupil.[1] Last year the approximate cost of a modern elementary school building including all necessary equipment was quoted at $275 per pupil.[2]

In figuring building costs in this study, the following estimates were used:-

elementary school @ $300 per pupil

elementary-junior high school @ $350

junior - senior high school @ $450

The method of financing the building program is another important consideration. In the small towns, such as those under consideration, bonding is the best method in spite of the fact that this plan, if composed of straight 5% twenty year bond issues, is twice as costly as the pay-as-you-go plan. The argument for building schools by bond issues is that practically every business man borrows capital to set up his business and that a good school building increases valuation. The sinking fund idea has been discouraging in most places where it has been attempted. The taxpayer can use money to better advantage than by accumulating a sinking fund; furthermore, it is usually found hard enough to pay the bills on hand not to speak of paying bills not contracted.[3]

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[1] Geo. I. Strayer, "Report of the Survey of Certain Aspects of the Public School System of Prov. R. I." 1923-24

[2] Survey of Public Schools of Glocester, R. I. - Public Ed. Service of R. I. 1930. Irving C. Mitchell p. 13

[3] Herbert Blair, From notes taken in lectures, 1929

> "From every point of view the serial bond is the most desirable. Each year a definite levy can be made to retire the bonds maturing that year. It thus becomes a simple matter for the board to estimate the amount needed for this purpose." [1]

Operation and Maintenance Cost

It has already been pointed out that Portsmouth and Middletown have correspondingly higher operation and maintenance costs than the average Rhode Island town. This is undoubtedly due to their large number of separate small operating units. It should be the aim then, to obtain as large and as comprehensive building units as possible especially in view of the improved instruction that would result.

The problem of whether or not to offer high school instruction "at home" has received detailed study. A comparison of the school budgets of Hanover, Mass. which operates a Junior-Senior High School, and Portsmouth, R. I., which pays tuition for its high school pupils enrolled elsewhere, shows that there would be little extra expense involved if a high school were operated by Portsmouth. The towns are comparable in size and type. Although a senior high school for Portsmouth alone is not advocated in this thesis, the results of the comparison are briefly reported to show that the tuition expenses

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[1] Harry P. Smith, "Bus. Ad. of Pub. Schs." p. 375

of Portsmouth would nearly meet the current expenses of a modern high school plant.

Expenditure	Hanover	%	Portsmouth	%	Standard Per cents
General Control	$2,033.98	4.2	$2,284.81	5.2	4.9%
Instruction	29,233.48	59.4	27,185.91	65.9	72.8
Operation	5,972.99	12.2	5,330.93	12.9	13.5
Maintenance	1,990.49	4.0	2,259.49	5.4	3.8
*Auxiliary Agencies	9,940.82	20.2	3,933.30	9.6	2.8

*This difference is due to the items of transportation and new equipment:

	Hanover	Portsmouth
Transportation	$6,604.12	$2,500.00
New Equipment	2,457.99	450.00

In the accounting of the Portsmouth expenditure, the cost of tuition for pupils attending high schools was prorated according to the median percents of the functional divisions of current expense.[1]

Hanover's per capita high school cost (last four years) amounted to $118, while Portsmouth's is $125.

Instruction Costs

Hood, in his study of high school instruction costs shows the lack of economy and efficiency that is prevalent in the small high schools of Massachusetts:-[2]

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[1] American City Bureau of N. Y. "Know and Help Your Schools," Third report 1921.

[2] J. Turner Hood, Jr. "Instruction Costs in the Smaller Mass. High Schools", B. U., Sch. of Ed. Thesis, 1928. p.22

Median Pupil-Hour Costs in Cents per all Subjects

Enrollment	High	Median	Low
over 200	6.3	5.5	4.5
151-200	10.2	6.7	5.4
101-150	11.6	8.0	5.3
51-100	18.0	8.9	5.8
1-50	21.7	13.8	10.2

Administrative Efficiency

Consolidation obviously facilitates supervision and administration. A reasonable unit of territory for a consolidated school has been defined as having (1) enough taxable property; (2) enough children and (3) the right kind of organization with qualified teachers and adequate transportation. [1]

With regard to secondary education, there is at the present time considerable discussion concerning the proper size of the rural high school. A 1930 government bulletin shows that the average enrollment of all high schools is 212 pupils, and the average teaching staff consists of 9.2 teachers. The average enrollment of the rural high school is 76 pupils and the average teaching staff consists of 4.2 teachers.[2]

> "The more intimate acquaintance of teachers with the pupils, their parents, and the community as a whole, may in many instances make possible a more specific adaption of work to pupils' interests and needs than is possible in large school systems."[3]

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[1] J. F. Able, "Consolidation and Transportation Problems," Gov. Bul. 1923 No. 39, p. 10
[2] Walter H. Gaumnitz, "The Smallness of America's Rural High Schools", Gov. Bul. 1930 No. 13 pp.6-8
[3] Francis T. Spaulding, "The Small Junior High School" p.66

> However, "it may well be questioned whether it is advisable or even justifiable to maintain a four year high school of less than 100 pupils unless the locality is so isolated that it is impossible to send pupils to a high school of good standing. The consolidated high schools in operation in other sections of the country offer an apparent solution of this difficulty, but it is doubtful whether New England with all its petty jealousies and local pride could produce two or more towns willing to relinquish their absolute control over this phase of public education."[1]

Towns Uniting with one 4-year High School

Under this plan, traditional elementary schools having eight grades would be established and a high school would be constructed to provide for the children in grades 9-12 inclusive of both Portsmouth and Middletown. This plan would not be feasible at the present time because the present high school enrollments are not sufficiently large to allow economical class grouping.[2] Portsmouth has 76 high school pupils and Middletown has 82. This makes a possible total enrollment of 158 for such a high school as suggested under this arrangement. Although this number is larger than 60% of the present high school enrollments of the country, the writer feels that instruction in such a high school would not approximate instruction that they now receive in the Cities of Newport and Fall River. Ferriss showed that in Mass.

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[1] J. Turner Hood, Jr., "Instruction Costs in the Smaller Mass. High Schools", B. U. Sch. of Ed. Thesis 1928, p.20

[2] Ibid.

high schools with enrollments under 200, the median class had 12.5 pupils, and in N. Y. State, the median was 10.2.[1]

Towns Uniting with a Combined Junior-Senior High School

Gaumnitz's recent study of rural high schools shows that if a rural community undertakes education on a secondary level at all it is the common practice to offer a program extending through the twelfth grade. He further states that schools which have reorganized on the junior high school basis clearly favor, first, the six-year undivided plan of organization and, second, the three-three-plan.[2]

Advantages Derived from a Junior High School Organization

There is a real need for a reorganization of the seventh and eighth grade curricula in Portsmouth and Middletown and adequate provision should be made for the children of these grades.

The training of children in their adolescent period is necessarily different from their earlier training,- both parents and teachers can vouch for this. The modern school for children attending the seventh and eighth grades makes provision for this difference by introducing some of the hand skills such as elementary carpentry and elec-

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[1] Emery N. Ferriss, "The Rural High School--Its organization and Curriculum", Gov. Bul. 1925 No. 10, p. 6

[2] Walter H. Gaumnitz, "The Smallness of America's Rural High Schools," Gov. Bul. No. 13, pp. 8-11, 1930

tricity for the boys and sewing and cooking for the girls.

To bridge the gap which has always existed between the eighth elementary grade and the first year of high school, many towns have established junior high schools which usually provide for the seventh and eighth elementary years and the first high school year. Records show that there are many cases of children who do fair or even good work in the last year of elementary school but upon entering high school, they become failures. Our own records often show this to be the case.

Briefly stated the main reasons for this unsatisfactory condition seem to be:- first, that the pupil is forced from a situation of closely supervised drill in the eighth grade to a situation of self-initiative and individual study upon entering his high school work. The transfer from the one to the other is an acute change of procedure, in fact it is an entirely new situation which the pupil must face. Secondly, there is the abrupt change from the one teacher to the specialized teachers of the various subjects, this involving the necessity of the entering high school pupil to actually study the different types of personalities that are his new teachers and discover before it is too late the new demands of each. The third reason might be the sudden change from the quiet country setting to the busy and disturbing influences of the city setting to which the city children are more accustomed; this at too early an age.

The junior high school organization makes all the changes gradual ones. The teaching is departmentalized, thereby giving the children the experience of different teachers for the different subjects at an earlier age. The instruction under this plan becomes more efficient due to the specializing of the teachers in their chosen subjects. In the junior high school if organized as such a unit, the children come under a systematic plan of guidance which includes health, social, and educational guidance. Under educational guidance the children are allowed brief try-out courses in the manual training subjects, domestic science subjects, commercial subjects, classical subjects, and perhaps in such a community as this in the agricultural subjects. Through these elctive subjects and try-out experiences, the children are placed in a better position to intelligently choose the courses which they desire to pursue in the senior high schools and thereby the number of pupils failing in their high school work should be reduced. As it often is at present, children find after choosing a course that they have no interest in it or lack the ability to accomplish the work and so becoming discouraged, "drop out" with a defeated feeling.

The raising of the state compulsory school attendance age to sixteen has created the problem of enforcing children who have graduated from the elementary schools but are not old enough to legally leave school, to attend

high school in nearby cities. There will be increasing number of these pupils in the near future and provision for these cases could be made under this organization.

The procedure for children electing to attend high school in Fall River is unusually awkward at the present time because they must attend a junior high school for their ninth year and then be transferred to the senior high school from there. In other words the pupils are subjected to two strenuous years of study in succession and to two graduations within a year's time. The situation will be the same in Newport as soon as a junior high school is established there.

In the writer's opinion, the situation as outlined in the previous paragraphs calls for local instruction on the secondary level. The following building program which will be referred to as Plan A would be required to carry out such an organization.

Plan A

Plan A proposes the building of a junior-senior high school for both towns. Maps VII and VIII show the rearrangement of the school districts and the transportation is shown by the use of arrows.

In Portsmouth, the Gibbs School and the Vaucluse School would be consolidated by adding two rooms to the Coggeshall School which would then have grades 1-6 instead

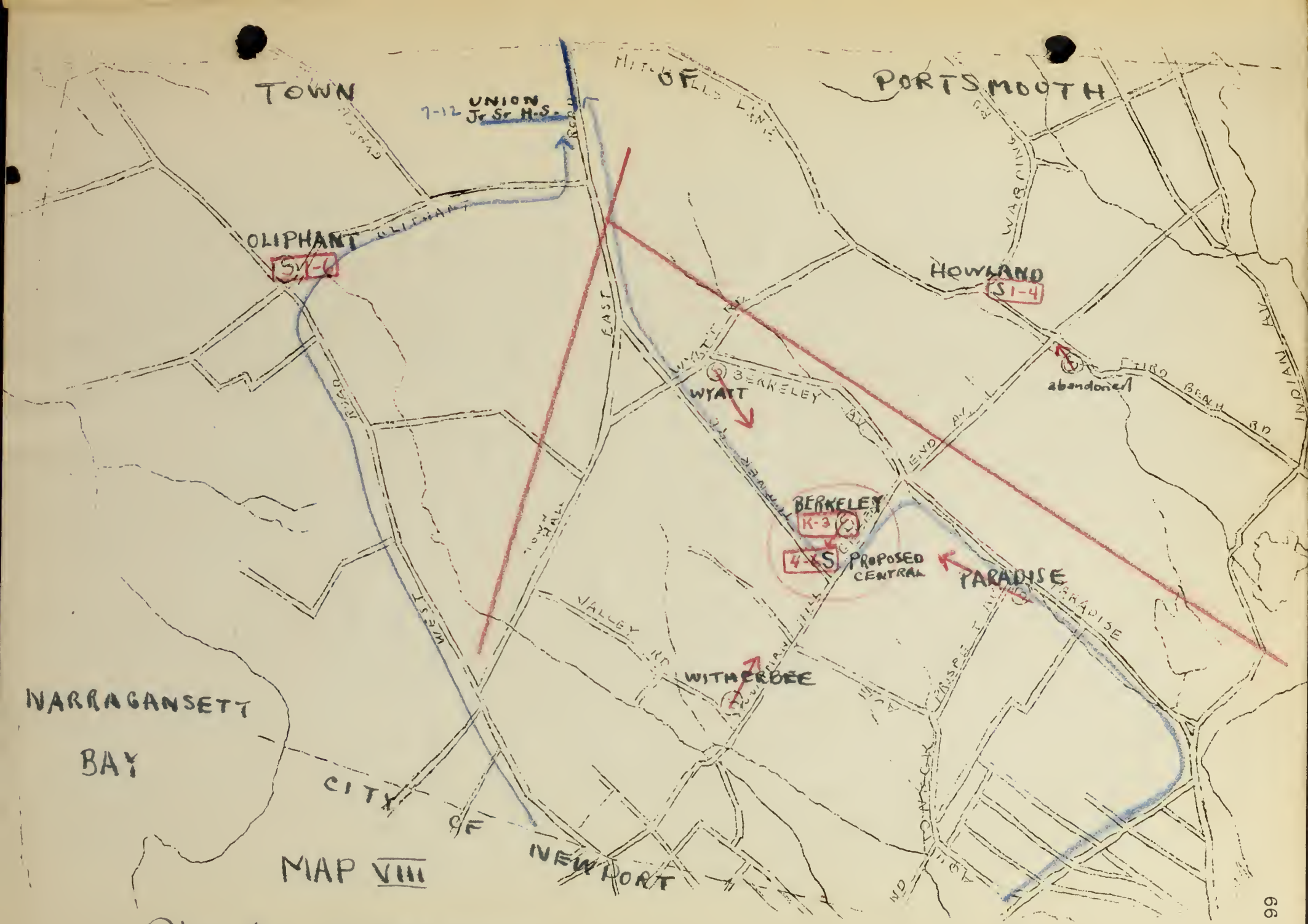
MAP VII

Plan A - Portsmouth

of 4-7 as at present. The Chase School and the McCorrie School would be consolidated by using the Quaker Hill School as a primary school instead of for grades 7 and 8 as at present. The Newtown School would be retained for the present but eventually it would be abandoned in favor of making a four-room addition to the Anne Hutchinson School, making this an eight room building having the first six elementary grades.

In Middletown, the three one-room buildings would be abandoned and these children would attend the Berkeley School which would also have a kindergarten room to facilitate the first grade work. The first grade has the largest enrollment and many of its pupils do not understand English well. The Oliphant School would contain grades 1-6 inclusive and the Howland School would have grades 1 through 4. A new four-room brick building would be constructed in the middle of the town to accommodate the children of the southern and eastern area of the town attending grades 4 through 6. Eventually this building would become the central school replacing the Berkeley School but this would be several years more as the Berkeley is in good repair and well equipped.

A complete Junior-senior High School plant would be erected on the town line at East Main Road to serve all the children now attending the last two years of element-



Plan A - Middletown

ary school and the high schools from both Portsmouth and Middletown. The property at this location is for sale and the building there could either be sold or moved to one side of the land and rented or used as a teacherage. The transportation requirements for Portsmouth would be three large buses if the senior high school pupils were not carried. Middletown would require two large busses unless senior high school pupils were carried when an additional bus would be needed.

In the two towns there would be approximately 425 pupils who would enter a junior-senior high of this type next year. These would be divided into 275 pupils for the junior department and 150 pupils for the senior department. Figuring at the estimated building cost of $450 per pupil, the total building cost would be approximately $200,000.00. A bond issue of the serial type would be raised and provisions for regularly taking care of both the interest and the principal of the bonds should be arranged.

Table XI shows a plan whereby the largest payments would be made during the first few years. The issue is calculated to run for a period of twenty-five years at a rate of interest of 5%.

TABLE XI

SERIAL BOND PAYMENTS ON A $200,000 JR. - SR. HIGH SCHOOL

Year	Total Principal Due	Amount of Principal to be paid	Amount of Interest to be paid	Total to be paid	Cost to each Town
1	$200,000	$8,000	$10,000	$18,000	$9,000
2	192,000	8,000	9,600	17,600	8,800
3	184,000	8,000	9,200	17,200	8,600
4	176,000	8,000	8,800	16,800	8,400
5	168,000	8,000	8,400	16,400	8,200
6	160,000	8,000	8,000	16,000	8,000
7	152,000	8,000	7,600	15,600	7,800
8	144,000	8,000	7,200	15,200	7,600
9	136,000	8,000	6,800	14,800	7,400
10	128,000	8,000	6,400	14,400	7,200
11	120,000	8,000	6,000	14,000	7,000
12	112,000	8,000	5,600	13,600	6,800
13	104,000	8,000	5,200	13,200	6,600
14	96,000	8,000	4,800	12,800	6,400
15	88,000	8,000	4,400	12,400	6,200
16	80,000	8,000	4,000	12,000	6,000
17	72,000	8,000	3,600	11,600	5,800
18	64,000	8,000	3,200	11,200	5,600
19	56,000	8,000	2,800	10,800	5,400
20	48,000	8,000	2,400	10,400	5,200
21	40,000	8,000	2,000	10,000	5,000
22	32,000	8,000	1,600	9,600	4,800
23	24,000	8,000	1,200	9,200	4,600
24	16,000	8,000	800	8,800	4,400
25	8,000	8,000	400	8,400	4,200
Total to be paid		$200,000	$130,000	$330,000	$165,000

The case with which each town could meet this bond issue is apparent. On the present tax duplicate of Portsmouth, a tax of but 1.14 mills on each dollar of property would be necessary to pay the interest and principal on the bonds the first year. In Middletown, the tax would be 1.36 mills. Due to the decrease in the principal each succeeding year and the accompanying decrease in interest charges, the tax rates would decrease gradually each year. Another factor that would tend to decrease the tax rates is the annual increase in the tax duplicates of the towns. When put in operation the current expenses of the building would be borne by each town on the basis of their enrollments. By proportioning the expenses under present estimates, Portsmouth's share would be about 59%, and Middletown's 41%.

The expense of consolidating the small units would partly be met by the sale of the old buildings and their sites. An additional tax level to meet this expense would amount to about a third of a mill in Middletown and about a tenth of a mill in Portsmouth during the first year of bonding: this amount decreasing annually thereafter.

Towns Uniting with One Junior High School

This organization appears to be the second most promising plan. The elementary systems would be arranged the same as outlined under the previous plan. The original

cost of a combined junior high school for the two towns would be considerably less than the junior-senior unit, viz., probably about $120,000.00 for the 275 pupils enrolled in these grades. It is evident that each town would benefit from either this or the former plan by attracting the more efficient type of instructors because better salaries and more complete equipment could be provided than under separate financing arrangements in smaller schools conducted separately.

Towns Separate with Traditional Type of Elementary Schools

Because of the explanation under the combined junior-senior plan of the many values to be received by adopting the junior high school system, it is evident that the present organization does not meet the needs of the community.

Towns Separate with a Combined Elementary and Junior High School

Spaulding's study showed how the effort to approximate large-school practice offers strong argument for the sacrifice of completely separate organization, housing, and staff on the part of the small junior high school. He also states that as between combination with the senior high school, the latter form of organization would seem the

greater promise of effectiveness. [1]

In the Mt. Vernon survey, the practice of combining the elementary and junior high schools in the same building was regarded as an accepted organization policy:-

> "The combined elementary and junior high school is in favor in many cities because it is found that more elementary school children tend to go on to junior high school grades when they are in the same building with the elementary grades; and also since the larger numbers of the combined schools make it possible to give richer facilities to both elementary and junior high school pupils and at less cost than if two plants were erected for the two types of schools."[2]

However, it is evident that junior highs are preferably linked with senior highs but as an alternative plan may be combined with the elementary grades. This latter arrangement has been planned as the best practice in Portsmouth and Middletown if the citizens will not consent to a union high school of either junior-senior or junior high type. This combination will be designated Plan B and Maps IX and X show the school districts and transportation directions in Portsmouth and Middletown respectively.

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[1] Francis T. Spaulding, "The Small Junior High School" p. 177

[2] Alice Barrows, "School Building Survey and Program for Mt. Vernon, N. Y." U. S. Bur. of Ed. Dept. of Int., April 24, 1929.

Under Plan B (map X) the three one-room schools in Middletown would be closed and the children of these localities would be transferred to the Berkeley School which would then contain a kindergarten and the first three grades. Near the Berkeley School at the junction of Green End Avenue and Aquidneck Avenue, an eight room brick building would be constructed to accomodate the children of the same area attending grades four through nine. Children of the entire town enrolled in the last two elementary grades and the first year of high school would attend this school. A new building of this size should provide ample room for the expected increase in enrollments for the next ten years according to the 2.3% annual increase estimated in Table VII. Under this arrangement, both of these schools would have just one grade to a room and the efficiency of the instruction would thereby be greatly increased. The new building should also contain a gymnasium-auditorium, a manual training or agricultural laboratory, a household arts room, a library, a nurse's office and clinic room, and a principal's office. The building would be built to allow for an addition in the years to come when the Berkeley School outlives its usefullness.

This site is accessible from most of the surrounding districts where there are large numbers of children as shown in the following milage table:-

TOWN
OF
PORTSMOUTH
OLIPHANT
1-6
HOWLAND
S 1-4
WYATT
BERKELEY
abandoned
BERKELEY
1R-3
PROPOSED JcE Jem.
S
H-T
PARADISE
WITHERBEE
NARRAGANSETT
BAY
CITY
OF
NEWPORT
MAP X
Plan B - Middletown

TABLE XII

ACCESSIBILITY OF PROPOSED NEW BUILDING SITE IN MIDDLETOWN

Distance from	Newport line at Green End Ave.	1.2	miles
"	" Newport Beach	1.5	"
"	" St. Georges School	1.7	"
"	" Paradise School (to be abandoned)	1.2	"
"	" Howland School (to be retained)	1.7	"
"	" Witherbee School (to be aband.)	.7	"
"	" Wyatt School (to be abandoned)	1.5	"
"	" Newport line via Boulivard Terrace	1.7	"

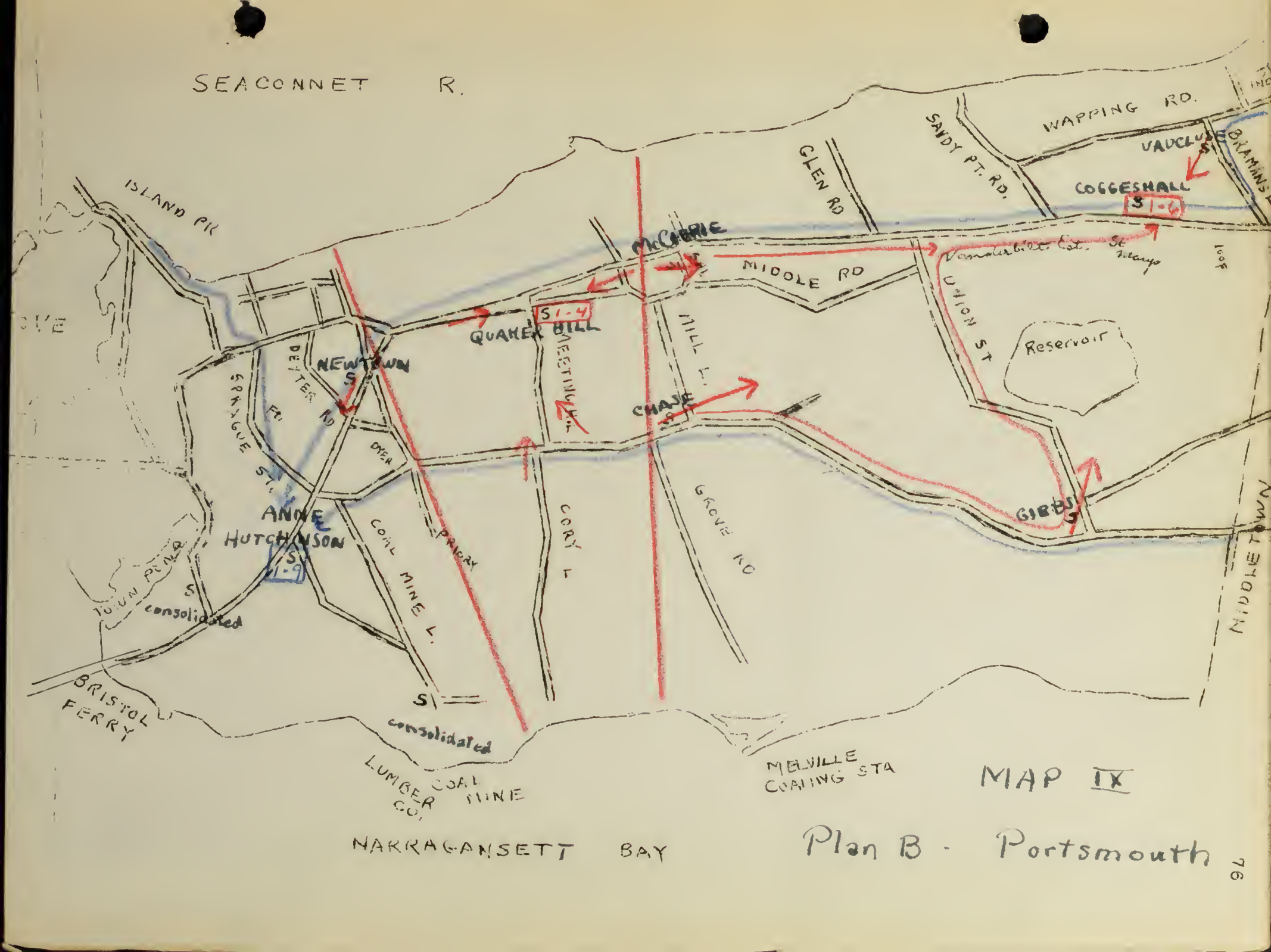
This arrangement would, then, involve little transportation. One bus circling the outer edge of this area would suffice for the eastern part of the town. To collect the kindergarten children for the Berkeley School and the children in grades 7-9 from the west side of the town, another bus would run from the Portsmouth line on the West Main road to the consolidated elementary-junior high building and to the Berkeley School. This distance is approximately four miles.

The Oliphant School would be retained as an elementary school of six grades and the Howland School would likewise be used as a school having the first four grades.

Both of these buildings have only two-thirds their normal capacity of children and would care for their respective districts for the next ten years of normal growth.

A map received from the New England Telephone Company showing the anticipated sectional growth of Middletown, indicates that the Oliphant School district and the proposed building district will have most of the future population increase. The retaining of the ninth grade would reduce the high school tuition cost to the town by at least a third of its total; this amount would cover the entire transportation costs. The total number of high school pupils attending the Newport High School is now 82, thirty-one of whom are in their ninth year. Thirty-two percent of the total elementary and high school children of the town are enrolled in grades 7-12 inclusive. There is reason to believe that this percentage will increase to nearly 50% within the next few years especially if improved facilities such as suggested are furnished.

According to the New England Telephone Company's predictions, the future growth in Portsmouth can be expected in the vicinity of the Coggeshall School in the southern end of the town and of the Anne Hutchinson School in the northern section. To meet these predictions which agree fairly well with the pre-school children findings and the school enrollment trends, additions


SEACONNET R.
WAPPING RD.
SANDY PT. RD.
GLEN RD
VAUCLUSE
COGGESHALL
S1-6
BRAMINS
ISLAND PK
McCORRIE
MIDDLE RD
Vanderbilt Est. St Nicholas
Roof
QUAKER HILL
S1-4
MEETING H.T.
MILL L.
UNION ST
Reservoir
NEWTOWN
S
DEXTER RD
SPRAGUE ST.
FRANKLIN
OWEN
CHASE
ANNE HUTCHINSON
S1-9
TOWN FARM
S
consolidated
COAL MINE L.
PRIORY
CORY L
GROVE RD
GIBBS
MIDDLETOWN
BRISTOL FERRY
S
consolidated
LUMBER CO.
COAL MINE
MELVILLE COALING STA
NARRAGANSETT BAY
MAP IX
Plan B - Portsmouth
76

would be needed at these two schools. See Map IX. The Coggeshall School would have an addition of four classrooms in order to provide for the consolidation of the four one-room buildings in the southern half of the town. The first six grades would be accommodated there. The second step in the program would rearrange the Quaker Hill School for use as a primary building having the first four grades, and replace the Newtown School by adding six rooms to the Anne Hutchinson School. Additional special rooms similar to those suggested for the Middletown building should be included. This arrangement provides for the anticipated 1.7% yearly increase in enrollment for a ten year period and also for a good portion of the probable increase in the percentage of children attending grades of 7-12 inclusive which is at present only 23%.

It will be noticed that in both plans for Portsmouth, the transportation arrangement provides for carrying the elementary children in one direction and the secondary children in the opposite direction in order to utilize the entire milage traveled. As each town should make provision for 250 pupils in its new structure the estimated cost of Plan B would be $80,000 in each town. The Anne Hutchinson site would need enlarging but the Coggeshall site is ample for an addition.

Comprehensive Summary

The first part of this thesis shows (1) that the towns of Portsmouth and Middletown are similar in their type of industries, composition of inhabitants, physical lay-out, and educational organization; (2) that certain curriculum advantages are everywhere being recognized as necessities of the present age--(the equalization of educational opportunity among all children should be the goal to be attained, and (3) that the towns need to make specific studies of such school problems as consolidation, population trends, etc.

The remainder of the thesis, which is the larger portion deals with the survey and the building programs suggested for the two towns. The principal aim throughout has been to provide a well consolidated organization featuring an up-to-date program of instruction. By uniting, the towns could easily construct a good junior-senior high school to care for an enrollment of 425 pupils without creating a heavy tax burden in either town. This program is recommended as the best means of providing for the needs of the town's secondary school children and is designated as Plan A. Under such a plan pupils attending grades 9-12 would be enabled to attend high school without the present expense and inconvenience of going to Newport or Fall River high schools. It is evident that both towns

could afford to increase the tax assessments in order to improve their school organizations. A union junior high school plant would be equally beneficial to the towns and could be constructed and operated on a more economical and efficient basis than though each town had its separate plant.

In lieu of the former plan which will probably meet with considerable opposition due to the traditional independence of the New England towns, Plan B. has been offered as a substitute program. In this plan each town would eventually have a large consolidated elementary-junior high building and two other smaller elementary buildings enrolling pupils of the first six grades in their respective districts.

Twelve tables and ten maps explain in detail the present school conditions and show the statistics upon which the recommendations for the future are based.

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